CAREX OKLAHOMENSIS (CYPERACEAE) NEW TO ALABAMA, GEORGIA, AND LOUISIANA, AND ADDITIONAL RECORDS FOR MISSISSIPPI

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ABSTRACT

Carex oklahomensis is reported new for Alabama, Georgia, and Louisiana, and new records are presented for Mississippi.

RESUMEN

Se cita *Carex oklahomensis* como nuevo para Alabama, Georgia, y Louisiana, y se presentan nuevas citas para Mississippi.

Carex oklahomensis Mackenzie is known from seasonally saturated or inundated soils of open alluvial bottomlands, marshes, right-of-ways, and wet meadows in Arkansas, Delaware, Kansas, Illinois, Indiana, Kentucky, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, Tennessee, Texas, and Virginia (Mackenzie 1931; Steyermark 1963; Bryson et al. 1992; Bryson et al. 1994; Jones and Reznicek 1995; Bryson et al. 1996; Standley 2002). Recent records from northern and eastern states indicate *C. oklahomensis* may be increasing its range (Standley 2002), and human disturbance and other activities seem to be the primary factors in its dispersal (Bryson & Carter 2008). Previously, *C. oklahomensis* populations in Mississippi and Tennessee were associated with highway and airport runway construction and the use of contaminated hay and seeds for erosion prevention and grass maintenance (Bryson et al. 1992; Bryson et al. 1994; Bryson et al. 1996). Some populations of *C. oklahomensis* have persisted for several years and then disappeared following drought or herbicide usage along highway right-of-ways (Bryson 2007), and others have persisted for longer periods (Bryson, pers. obs.).

Herein, we report the first records of *C. oklahomensis* from Alabama, Georgia, and Louisiana and new county records for Mississippi. It is highly likely that *C. oklahomensis* was introduced during highway and reservoir construction or maintenance in contaminated hay, grass seeds, or machinery at these sites, and it is likely that *C. oklahomensis* will continue to disperse in contaminated hay and grass seeds or on construction, maintenance, and mowing equipment. Presently it does not seem to pose a major weed threat.

Voucher specimens: **ALABAMA. Madison Co.:** Meridianville, W of Hwy US 231/431 just N of Beaverdam Creek, 34°50.376'N, 086°34.310'W, open area around lake in front of North Hills Church (PCA) and Westminster Christian Academy, 12 Jun 2006, *Bryson 21602 & Bryson* (JSU, NY, SWSL, VDB, VSC, herb. Bryson); 17 May 2007, *Bryson 22248* (SWSL, VDB, herb. Bryson). **GEORGIA. Whitfield Co.:** S side of Hwy US 76/SR 52, 0.6 mi E jct. with SR 286 to Dawnville, 2.0 mi E jct. with north Dalton by-pass on E-edge of Dalton, 34.78293°N, 84.87904°W, 17 May 2009, *Rothrock 4829* (GA, MICH, MOR, VSC, SWSL, herb. Bryson). **LOUISIANA. Ouachita Par.:** E of Hwy 165 N of Monroe, 16 May 1997, *Thomas 154042* (herb. Bryson; verified by Bryson, 1997). **MISSISSIPPI. Benton Co.:** Hickory Flat, SW jct. of Hwy US 78 and US 178; just W of ramp onto Hwy US 78 from Hwy 178, 34°37.085'N, 089°12.258'W, *Bryson 23235* (NY, VDB, VSC, SWSL, herb. Bryson). **Marshall Co.:** Potts Camp, W of Bypass Street, just N of Hwy US 178, between Hwy US 78 and US 178, 34°39.175'N, 089°18.592'W, 2 Jun 2009, *Bryson 23221* (NY, VSC, SWSL, herb. Bryson). **Montgomery Co.:** ca. 3.5 air mi E of Winona, S of Hwy US 82, 33°28.662'N, 089°40.015'W, 12 Jun 2009, *Bryson 23243 & Bryson* (NY, SWSL, herb. Bryson).

In Alabama, *C. oklahomensis* grew around the edges of a small man-made lake on a dark red clay soil with few intermixed rocks just above the water-line. At this site, *C. oklahomensis* was associated with *Carex annectens* Bicknell, *C. longii* Mackenzie, *C. lurida* Wahlenberg, *C. triangularis* Boeckeler, *C. tribuloides* Wahlenberg, *C. vulpinoidea* Michaux, *Juncus* sp., and a number of Poaceae. Small populations of two to 20 clumps were dis-

persed around the edge of the lake in open areas. Although the area is mowed periodically, *C. oklahomensis* plants were observed again in May, 2009 (Bryson, pers. obs.). The Georgia population had over 50 plants of *C. oklahomensis* in a wet pasture/shallow marsh that receives road verge runoff. Associated species included *Agrimonia* sp., *Carex annectens*, *C. aureolensis* Steudel, *C. leavenworthii* Dewey, *C. lupulina* Willdenow, *Eleocharis obtusa* (Willdenow) Schultes, *E. palustris* (L.) Roemer & Schultes, *Lolium pratense* (Hudson) S. J. Darbyshire (*Festuca elatior* L.), *Juncus* spp. including *J. effusus* L., *Ludwigia palustris* (L.) Elliott, and *Ranunculus sardous* Crantz. In Louisiana, *C. oklahomensis* grew in a subdivision to the east of a major highway. Volunteer plants of *C. oklahomensis* were discovered in an unplanted wildflower area (Thomas, pers. comm.). At the sites in Mississippi, *C. oklahomensis* grew in wet ditches along the highway right-of-ways on wet silt or clay soils. Common associates in Mississippi were *Carex annectens*, *C. aureolensis*, *C. longii*, *C. lurida*, *C. vulpinoidea*, *Eleocharis obtusa*, *Juncus* spp., and various Poaceae species. The Mississippi populations of *C. oklahomensis* ranged from fewer than 50 plants at the Montgomery County site to several hundred plants at the Marshall County site. Lack of extensive seasonally wet roadside ditches at each of the Mississippi sites may be a limiting factor for additional dispersal, unless mowing equipment transports achenes to suitable habitats several hundred meters from the observed populations.

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